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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,239	05/07/2001	Ruby B. Lee	4759-104 US	2238

7590 03/27/2006

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EXAMINER

CALLAHAN, PAUL E

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/850,239

Applicant(s)

LEE ET AL

Examiner

Paul Callahan

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-19,21-25,28-57 and 66-77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-19,28-57 and 66-75 is/are allowed.
- 6) ☒ Claim(s) 2,4-7,21-25,76 and 77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-57 and 66-77 were pending in the instant application at the time of the previous Office Action. Claims 1,3, 20, 26, 27, 58-66 have been cancelled by the latest amendment. Therefore claims 2, 4-19, 21-25, 28-57, and 66-77 are pending and have been examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 4, 5-7, 21-25, 76 and 77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4-6, 21, 76, and 77 each contain the limitation: "defining bit positions in a source sequence of bits to be permuted in a source register for a group of bits in a destination register" It is unclear what the applicant contemplates "for a group of bits in a destination register" to mean. The limitation does not clearly express sending a permuted sequence from a source to a destination register as the rest of the claim limitations recite.

Claims 4-6, 21, 76 and 77 each contains the limitation: "...and a reference to said destination register in said destination register..." It is not clear what the Applicant intends this phrase to mean.

Claims 2, 7, and 22-25 are dependent on claims 4 and 21 respectively and are therefore rejected on the same basis as those claims.

Allowable Subject Matter

4. Claims 8-19, 28-57, and 66-75 are allowed.
5. Claims 4-6, 21, 76, and 77 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
6. Claims 2, 7, and 22-25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art in the field: Cole US 6,865,272, and Turkowski US 5,524,236, do not teach the features of the claimed invention:

As per claims 4-6, 21, 28, 76, and 77: a method for performing an arbitrary permutation in a programmable processor including; performing the permutation based on a permutation instruction that is in part defined by a first parameter indicating which k bits in a destination will change, a reference to the source register which contains the

source sequence of bits to be permuted, a reference to a configuration register which contains configuration bits for indicating which said bits in the source register are assembled, and a reference to the destination register.

As for claim 8: a method or performing an arbitrary permutation in a programmable processor including; determining an intermediate sequence of bits that a final arrangement is transformed from, and determining a permutation instruction for transforming the intermediate sequence into the final sequence by dividing the intermediate sequence into a first and a second group and combining the groups, and repeating the above process in the manner of the applicant set forth in claim 8.

As for claims 14 and 32: a method or performing an arbitrary permutation in a programmable processor including; determining a final arrangement of a sequence of bits to be permuted and determining a number of monotonically increasing sequences (MIS) in the arrangement, determining a first group of MIS's and a second group of MIS's and combining each element of the first group sequentially with each element of the second group.

As for claims 17 and 35: a method or performing an arbitrary permutation in a programmable processor including the use of GRP permutation instructions in permuting bits from a source register.

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As for claims 38, 46, 48, and 50: a method for performing an arbitrary permutation in a programmable processor including use of a PPERM permutation instructions in permuting bits from a source register.

As for claim 42, 52, 54, and 56: a method or performing an arbitrary permutation in a programmable processor including use of a PPERM3R permutation instructions in permuting bits from a source register.

As for claim 66: a method of performing an arbitrary permutation including a step wherein after a final permutation instruction, a desired permutation of a source register is determined and the determined permutation instructions form a permutation instruction sequence.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul E. Callahan whose telephone number is (571) 272-3869. The examiner can normally be reached on M-F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Emmanuel Moise, can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is: (571) 273-8300.

3-16-06

Paul Callahan


EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER